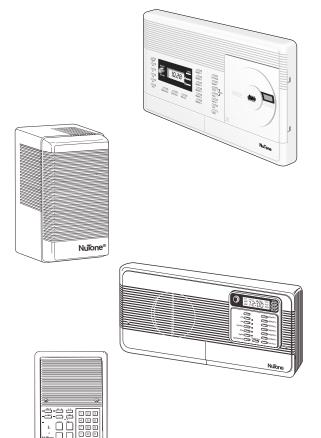
### Nutone®



## Electronic, Communication, and Music System Selection and Installation Guide

- Voice/Music Intercoms
- Voice Intercoms
- Music Distribution Systems

**Building Solutions for Today's Lifestyles** 

### How to use this Guide

NuTone offers a wide selection of electronic, communication, and music systems that feature a wide range of benefits; from the distribution of hi-fi music with intercom to a system that features intercom only. These systems will satisfy a wide range of needs and budgets.

Use this guide to make your final decision on the system that best meets your needs. Once that decision is made, this manual can help you choose the accessories, speakers, and cable you'll need to complete your system and plan your installation. NuTone intercoms and accessories ship complete with detailed instructions to make the installation and your enjoyment of the system, a pleasure.

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IMA-516 Series
IK-15 & IK-25 Door Com
Dimensions for Rough-Ins and Trim

## **Choosing Your NuTone System**

### **Select your NuTone system**

IK-15/25

1

Door Intercom

IMA-516 Intercom

IM-3204WH Basic Music Intercom IM-3303 Deluxe Music Intercom

IM-4406 Premium Music Intercom with CD Player

IM-5000 Selective Call Intercom

2

### **Select your options**

Cassette Player Door Chime Door Release Audio Input Plate

3

### **Select your NuTone systems and controls**

Typically, the master unit is installed in the kitchen. NuTone recommends a speaker in each of the following rooms: living room, media room, family room, each bedroom, dining room, each outside door, garage, basement, patio/deck, kitchen (when master is not installed in kitchen) and master bath (which allows you to step out of the shower and easily answer the door).

4

### Select your installation accessories

Choose the installation accessories you will need to install your master and speakers. These include recessed or surface mount wall housings, mounting brackets and cable.

5

### Install and enjoy your new NuTone system

Illustrated instructions and owner's manuals are included with each unit.

### **NuTone System Features**

Not all units have the same features. To find out more about each unit's features, locate the corresponding description on the following pages.

		COLOR			MODEL		
		BISCUIT:	_	IM-4406L	IM-3303L	_	_
FEA	TURES	BLACK: WHITE:	 IM-5000	IM-4406BL IM-4406WH	— IM-3303WH	— IM-3204WH	— IMA-516
A.	Music/Intercom Speaker Capacity		20	9*	13	6	10
B.	Door Speaker Capacity		3	3	3	3	2
C.	Number of Room Selector Switches			9*	9	6	
D.	Music Muting during Intercom or Chime		•	•	•	•	Intrcm Only
E.	Constant-On 24-Hour Intercom		•	•	•	•	•
F.	Monitors Room Speaker		•	•	•	•	•
G.	Selective Call		•				
Н.	Room-to-Rooms Intercom (All Call)		•	•	•	•	•
I.	Room-to-Doors Intercom		•	•	•	•	•
J.	Number of Wires in Speaker Cable		6	6	3	4	6
K.	"Hands Free" Answering		•	•	•**		
L.	Intercom Only Switch Setting			•	•		
M.	One Button Door Answering		•	•	•	•	•
N.	AM/FM Radio Built In			•	•	•	
0.	Built-in CD Player			•			
P.	Electronic Tuning			•	•	•	
Q.	Remote Radio On/Off, Memory Control			•	•	•	
R.	Station "Recall" Memory			12	12	8	
S.	Tape, CD and/or Aux. Inputs		1	2	2	1	1
T.	Separate Bass/Treble Tone Controls			•	•	•	
U.	Loudness Control			•	•	•	
V1.	Tune Selectable Chime Option (10 choices	s) Available	•	•	•	•	
V2.	Westminster Chime Option (8, 2, 1 note) A	vailable	•	•	•	•	
V3.	External Chime Option		•	•	•		•
W.	Master Unit Color Choices		1	3	2	1	1
X.	Digital Clock			•	•		
Y.	Digital CLock Can Turn Radio On & Off			•	•		
Z.	Time and Radio Memory Backup (Up to)			30 hours	30 hours		
AA.	Lighted Function Display			•	•		
BB.	Self Diagnostic Troubleshooting Circuitry			•	•	•	
CC.	Built-In Surge Protector		•	•	•	•	•
DD.	Privacy Switch on Intercom Speakers		•	•			
EE.	End Call Button		•	•	•	•	
*	Up to 15 speakers with addition of IA-440	Expansion Modu	ıle				
**	Calls made from master						

### **Music Intercom Features Explained**

### A. Music/Intercom Speaker Capacity

The number of rooms you can have intercom communications and play music in depends on the number of intercom speakers you can put on the system.

### B. Door Speaker Capacity

All NuTone music/intercom and intercom systems can handle three doors except the IMA-516 which can handle up to two door speakers.

### C. Number of Room Selector Switches

Room selector switches allow you to choose what is sent to each room speaker. The room switch can be set to one of four settings:

- 1. Radio Intercom
- 2. Intercom Only
- 3. Monitor
- 4. Off

Why would you have a speaker switch set to anything other than the first - *Radio Intercom?* Well, if you're an early riser, you may want to set the bedrooms to *Intercom Only*. That way you can play music and not disturb your sleeping children or spouse. The *Monitor* setting allows you to monitor rooms and broadcast the sound from the monitored room through the rest of the intercom speakers inside and out. *Off* setting turns off all intercom, music, and chime sounds to the room.

The IM-4406 and IM-3303 systems have these four switch options. The IM-3204 has *Radio Intercom, Off* and *Monitor*. Monitor, intercom, and music control features for the IMA-516 and IM-5000 are located directly on the room speakers.

### D. Music Muting during Intercom or Chime

During intercom, the music is muted allowing for clear voice communication. The music is also muted when the chime button is pushed.

### E. Constant-On 24 hour Intercom

The intercom is always on. You can use the intercom function at a moment's notice.

### F. Monitors Room Speaker

On radio/intercom units, position room selector switch at the master to *Monitor* to instantly check on a room. On the IMA-516 and IM-5000, press the "TALK LOCK/MONITOR" button on the room speaker.

### G. Selective Call

Selective intercom calling is available on the IM-5000. To make a selective call, first enter the two-digit room number corresponding to the room you wish to call. After the second digit is pressed, a call tone is heard at both stations to indicate a call is being made and intercom audio from the called station is heard. To talk to the selected room, simply press the "TALK" button. To hear the reply, simply release the "TALK" button.

### H. Room to Rooms (All Call) Intercom

Press a button in any room to speak to the other rooms. Most NuTone intercom systems are "all room" intercom systems. This means that when you press the talk button you speak to all rooms that have intercom speakers. Our IM-5000 is both an "all call" and "selective call" system. With this system, you can specifically call one room from another. A selective call intercom system is well suited to business installations like dentist or doctor's offices or other small businesses. One advantage to an "all room" system is that often when calling an individual, particularly children, they may have moved from one room to another. With a NuTone "all call" intercom you'll immediately be able to communicate with the individual.

### **Music Intercom Features Explained**

### I. Room to Doors Intercom

Press the door talk button on a room speaker to speak with a visitor at the door. Release to hear the reply.

### J. Number of wires in Intercom Speaker Cable

If you wish to replace an existing Music/Intercom to take advantage of updated styling and new features, you need to be aware of the cable used to wire the system you're replacing. If you can, you'll want to use the cable already in the wall. In most cases, a current NuTone 3-wire system can replace an older 3-wire system, 4-wire replace 4wire, etc. You may also be able to replace a different brand intercom with a NuTone system. Our Technical Support Group would be pleased to help you determine your options, please phone us at 888-336-6151, or fax us at 513-527-5122. Please have the brand, model number, number of speakers, number of wires and any other details you may have on your system available when you call.

### K. "Hands Free" Answering

Ideal for the couch potato in all of us. The person being called doesn't have to rise from the chair to answer. In systems without the "Hands Free" circuitry, the person being called needs to go to the intercom speaker and press a button to respond. On IM-5000 and IM-4406, all calls from master or any speaker are "Hands Free". On IM-3303, only calls from the master are "Hands Free".

### L. Intercom Only Switch Settings

If you're an early riser, you may want to set the bedrooms to Intercom only. That way you can play music and not disturb your sleeping children or spouse.

### M. One Button Door Answering

To answer the door, you press one button to speak to the visitor, release the button to listen to their response. All NuTone systems offer one button door answering. In some systems you press one button to speak, another button to listen. One button door answering is more convenient because you are less likely to miss part of your visitor's response. It is not dependent on how quickly you press the second button to listen.

### N. AM/FM Radio

### O. CD Player

Many of our intercoms have built-in AM/FM radios so you can enjoy your favorite radio station throughout your home. Model IM-4406 has a built-in CD Player.

### P. Electronic Tuning

Allows for easy, accurate tuning of your favorite radio station.

### Q. Remote Radio On/Off, Memory Control

Radio operation can be controlled from any intercom speaker. Press the "RADIO CONTROL/END CALL" button at any intercom speaker for 2 seconds to turn the radio ON. To turn the radio OFF, again, press the "RADIO CONTROL/END CALL" button for 2 seconds. To sequence through each programmed radio memory channel, momentarily press the "RADIO CONTROL/END CALL" button.

### R. Station "Recall" Memory

Program your favorite stations into memory for easy recall later.

### S. Aux Audio Input(s)

The master has audio input(s) allowing you to add a NuTone Cassette player, to patch in the audio from your multi-disc CD player or home theater for broadcast throughout your home.

### **Music Intercom Features Explained**

### T. Bass/Treble Controls

Tone controls allow you to fine tune the music output. NuTone music intercom systems have separate bass and treble controls.

### U. Loudness Control

When activated, the loudness control boosts the bass and treble response during low volume use.

### V1. Tune Selectable Chime Option

The IA-29 chime module offers 10 different tunes plus Westminster chime. To select a different tune, press the tune change switch through the tune change access hole located on the master panel. Also includes a two and one note chime sound for the side and rear doors. Module mounts and plugs into master unit.

### **V2.** Westminster Chime Option

The IA-28 chime module offers a Westminster chime sound for the front door, and a two/one note chime for the side and rear doors. Module mounts and plugs into master unit.

### **V3.** External Chime Option

Most NuTone electronic chime models can be connected to the master unit to allow chime sound to be heard over the room speakers.

The addition of a chime module or NuTone electronic chime to your NuTone intercom system ensures you'll never miss a guest again by sounding the chime through all intercom speakers that are turned on.

### W. Color Choices

All NuTone intercoms are available in white. Some are also available in black and biscuit. Our cassette player is available in white. Speakers are available in white. Some speaker models are available in biscuit, black or brown. Door speakers are available in antique brass, bright brass, white or brown.

### X. Digital Clock

The IM-3303 and IM-4406 music intercoms feature a built-in digital clock.

### Y. Digital Clock can turn Radio on and off

The Music Intercom system can be used as a whole house alarm clock. Set the clock to turn music on in the morning and have it gently wake your children. The digital clock can also be used as a sleep timer to turn music off at a certain time. This feature also can be used as a deterrent to intruders. The timer can be set to turn music on while you are away - making a thief think you are there, discouraging them from entering your home.

### Z. Time and Radio Backup

A built-in electrical backup system maintains your time and radio memory channels up to 30 hours during a power outage.

### **AA.** Lighted Function Display

The lighted digital display is easy to read day or night.

### **BB. Self Diagnostic Troubleshooting Circuitry**

For proper performance and operation of an Intercom, it is important that all wires are securely attached to the proper terminal. Otherwise, certain features of the intercom may not work, there could be humming or no sound at all. NuTone's self diagnostic circuitry allows the installer to easily check the installation and if there is a misconnected wire, identify which room is affecting the system. This helps ensure that when the installer leaves, your system is operating as it was designed to.

### **CC. Built-in Surge Protection**

Mov's and diode clamping circuitry help minimize the potential for damage to your NuTone music intercom system from line surges and electrical storms.

### **DD. Privacy Switch on Intercom Speakers**

Switch on speaker can be used to turn off the ability to monitor that room. Ideal for master bedrooms and baths.

### **EE. End Call Button**

Allows intercom call to be manually ended.

### **Options**

### **Cassette Player**

Auto reverse cassette player can play both sides of a tape over and over. Includes fast forward/rewind functions and a convenient tape storage area. Can be used with IMA-516, IM-3204, IM-3303, IM-4406 and IM-5000 series.

### Music and Intercom 25 ohm Speakers

NuTone offers a wide selection of speaker options; wall-mount, ceiling-mount, indoor and outdoor speakers. To determine which speakers are available for your system, see the system diagrams in this guide.

### **Music Input Plate**

Connect your existing music and TV audio components to a NuTone system. Allows you to follow the action of a sports event when you leave your home theater room by broadcasting the audio throughout your home. Can be used with IMA-516, IM-3204, IM-3303, IM-4406 and IM-5000 series.

### **Surface Mount Housings**

Surface mount housings are available for most NuTone room speakers as well as door speakers. They make it a little easier installation as you do not have to cut an opening to recess mount the speaker. They are especially handy when you want to put a door speaker on a brick surface or if you want to have a speaker on a fire rated wall (typically this is the wall between an attached garage and the living space).

### Chime

Never miss a guest again. Chime rings through every intercom speaker throughout your home. The NuTone IA-29 chime module offers the ability to easily select from ten different tunes for the front door and change them as your mood desires. Melody choices include: Westminster 8-notes, Westminster 4-notes, Anniversary Waltz, Beethoven's Fifth, Dixie, Greensleeves, Happy Birthday, Jingle Bells, Joy to the World, Mazel Tov, Oh Tannenbaum and the Star Spangled Banner. The second door rings two notes and the third door rings one note.

The IA-28 chime module plays 8-note Westminster for one door, two notes for second door and one note for a third door.

### Wiring Your System

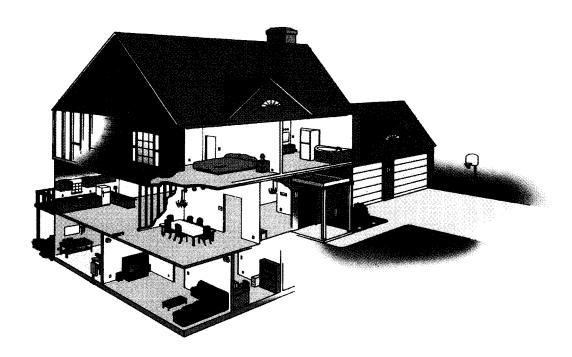
### What Cable is Needed

will not warranty systems where NuTone intercom cable is not used.

VERY IMPORTANT - Use only NuTone intercom cable to wire NuTone intercom system. NuTone intercom cable is designed and constructed to electrical specifications necessary for satisfactory performance. Use of "generic" cable can result in humming, interference and feedback in the installed system. After the house is finished, it will be time consuming and expensive to correct problems caused by use of the wrong cable. NuTone

- On all models except the IMA-516 and IM-5000, you should plan a separate "home run" cable from the master housing to each individual speaker or volume control location. Do not loop cables from one speaker or volume control to another. Electronic feedback or poor system performance will result. Models IMA-516 and IM-5000 can have speakers "looped". See IMA-516 and IM-5000 instruction sheets for details.
- Do not splice cables. Always install an uninterrupted cable from the master to the intercom speakers or volume controls and from the volume controls to the music speakers.
- Plan to keep cables 18 inches from fluorescent light fixtures, light or fan dimmer controls and any other wiring (electrical power, security system, etc.) to minimize risk of system interference.
- Plan cable routes away from metal (heating and air conditioning ducts, construction plates, etc.) or any other objects that may have sharp edges that could cause damage to the cables. If cables must be routed through metal, use rubber grommets in the holes to protect the cables.
- Cables installed outside the house are to be routed through PVC conduit to protect them from the elements. The cables are not constructed to be UV weatherproof.

### **Locating Your Components**



### Where to Install Master

Determine location of master with the following considerations:

- Choose master location with regard to residents' lifestyle, either centrally located (living room, kitchen, central hallway, etc.) or securely located (master bedroom).
- Locate master in an accessible area. Do not locate closer than 2 inches to a corner, cabinet, counter top, etc.
- Do not locate master in an outside wall.
   Insulation and temperature changes may adversely affect unit's performance and life.
- Select a location that will not restrict wire routing from the speaker to the master.

### Where to Install Music Speaker Volume Controls

Select music speaker volume control location with the following considerations:

- Except for model IC-902, do not locate volume control in a sauna or outside. Extreme heat and moisture will adversely affect its performance and life.
- Locate volume control a minimum of 18 inches from fluorescent light fixtures, light or fan dimmer controls and other wiring (electrical power, security system, etc.) to minimize risk of system interference.
- Do not connect more than one speaker to a monaural volume control or one pair of speakers to a stereo volume control.

### Where To Install Speakers

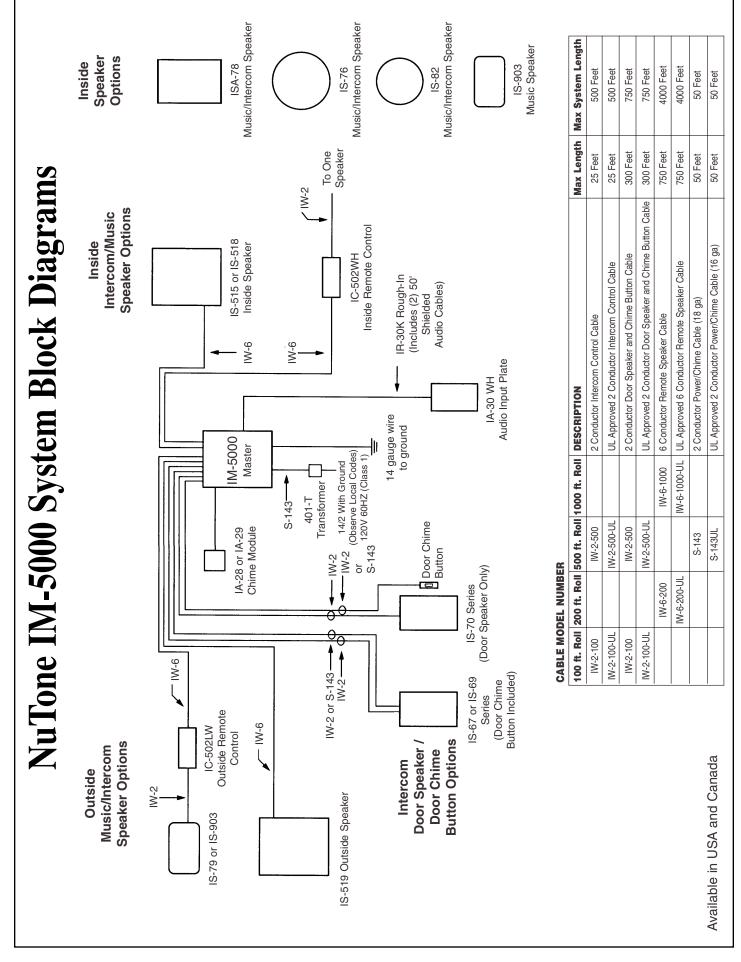
Typically, the master unit is installed in the kitchen. NuTone recommends a speaker in each of the following rooms:

$\checkmark$	Living Room	$\checkmark$	Media Room	$\checkmark$	Family Room
$\checkmark$	Bedrooms	✓	Dining Room	$\checkmark$	Outside Doors
$\checkmark$	Garage	✓	Basement	$\checkmark$	Patio/Deck
$\checkmark$	Laundry	✓	Kitchen (not if master is installed in kitchen)	✓	Master Bath (allows you to step out of the shower and easily answer the door)

Select speaker location with the following considerations:

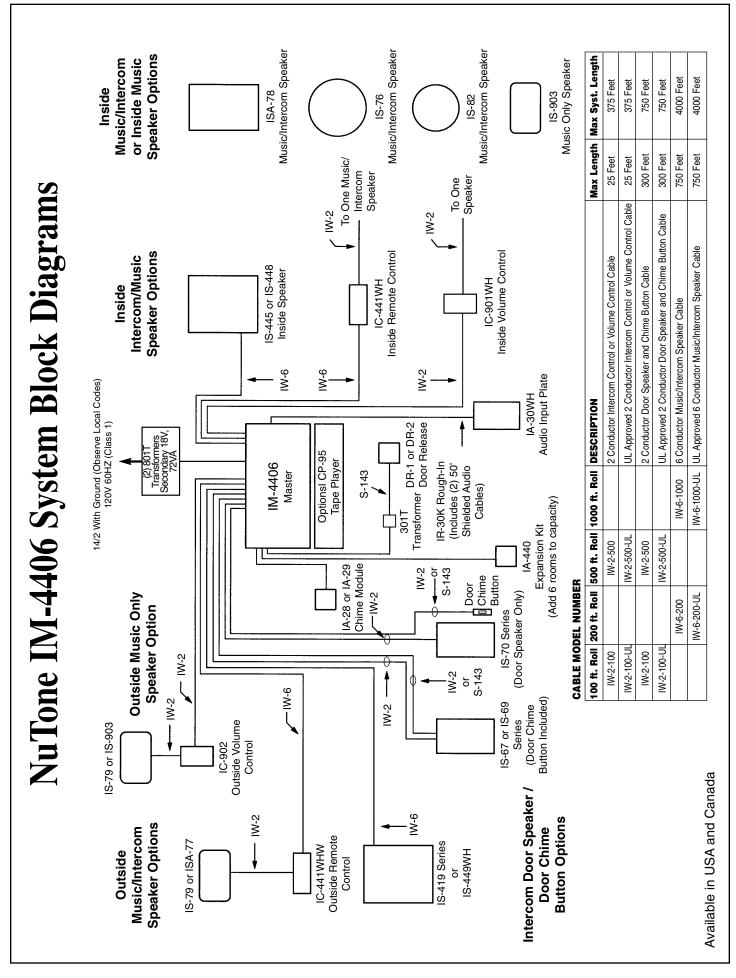
- Choose location where open doors or furniture will not cover the speakers.
- Do not locate speaker in an outside wall, except for speakers intended for outdoor use. Insulation and temperature changes may adversely affect the speaker's performance and life unless it has been designed for outdoor use.
- Do not locate speaker in a sauna.
   Extreme heat and moisture will adversely affect the speaker's performance and life.
- Locate speaker a minimum of 18 inches from fluorescent light fixtures, light or fan dimmer controls and any other wiring (electrical power, security system, etc.) to minimize risk of system interference.
- To avoid audio feedback noise, locate intercom speaker at least 10 feet from another intercom speaker and keep intercom speakers from directly facing each other or from being mounted within the same wall cavity. Never locate two intercom speakers in the same room.
- For optimum stereo separation, stereo music speakers should be located 6 to 10 feet apart. Ideally, you will also want to keep the speaker(s) 2 feet from any sidewall, ceiling or floor.
- Do not locate more than one speaker in a room except when installing the SR-9000 stereo receiver.





# **IM-5000 Series Components**

IA-28
<del>                                      </del>
Options (WH), Biscuit (L) (WH), Biscuit (L)
WH), Biscuit (L) White
White
Discuit
DISCUIL
1), biscuit (L)
White
Biscuit
White
Black Grille with Brown frame/mounting bracket
White (WH), Biscuit (L)
Aluminum
White
White (WH), Black (BL)
White
White
White
White
Dark Brown/Brass
Dark Brown/Brass
White (WH), Woodgrain/Gold (D)
White (WH), Antq Brass (AB), Polshd Brass (PB)
White (WH), Antq Brass (AB), Polshd Brass (PB)
White
I
1
I
1

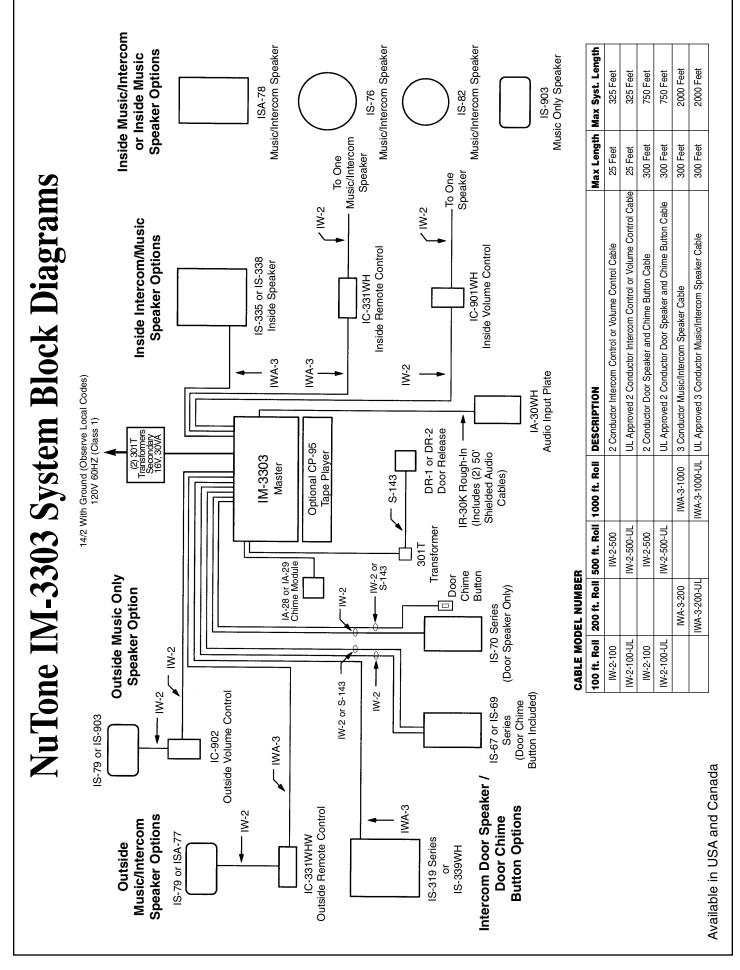


# **IM-4406 Series Components**

	Model No.	Options	Description	Recessed Housing
Music Intercom Master	IM-4406	White (WH), Biscuit (L), Black (BL)	Premium Monaural Music Intercom Master with CD Player	IR-105
Expansion Module	IA-440	Increses capacity from 9 to 15 spkrs.	icreses capacity from 9 to 15 spkrs.   Allows addition of 6 room speakers	I
Cassette Player	CP-95	White	Cassette Player with Auto Reverse	IR-90
Chime Modules	IA-28	1	Chime Module (8, 2 or 1 note - 3 doors)	I
	IA-29	I	Chime Module (Multitune, 2 or 1 note - 3 doors)	I

	Model No.	Options	Description	Recessed Housing	Surface Mount Housing Model
Remote Intercom Speakers	IS-445	White (WH), Biscuit (L), Black (BL), Sable Brown (D)	5" Inside Remote with Controls	IR-50	IA-60
-	IS-448	White (WH), Biscuit (L), Black (BL), Sable Brown (D)	8" Inside Remote with Controls	IR-80	1
	IS-449WH	White	5" Outside Remote with Controls	I	included
	IS-419	White (WH), Antq Brass (AB), Polshd Brass (PB)	5" Outside Remote with Controls	IR-50 or IR-55**	I
Intercom Speaker Frames	IA-60	White (WH), Biscuit (L), Walnut (D)	5" Wall/Desk Mounting Frame	I	I
	IA-6	1	Wall Receptacle for IA-60	I	I
	IA-6C	1	Cable for IA-6	I	I
Remote Intercom Controls	IC-441WH	White	Inside Remote Intercom Control (one spkr per control)	IR-91	I
	IC-441WHW	White	Outside Remote Intercom Control (one spkr per control)	I	included
Music/Intercom Speakers	9Z-SI	White	8" Inside Round Recessed Speaker	IR-70	ı
	ISA-77	Black Grille with Brown frame/mounting bracket	8" Outside Surface Mount Speaker	1	included
	ISA-78	White (WH), Biscuit (L)	8" Inside Rectangular Recessed Speaker	IR-80	I
	6Z-SI	Aluminum	8" Outside Square Recessed Speaker	IR-9	ı
	IS-82	White	5" Inside Round Recessed Speaker	included	I
Music Speakers	IS-903	White (WH), Black (BL)	3 1/2" 2-Way Inside/Outside Speaker	ı	included
Music and intercom speakers	IS-905WH	White	5 1/4" 2-Way Inside Recessed Speaker	IR-905 or IR-906	ı
must not be installed in the same	HW806-SI	White	8" 2-Way Inside Recessed Speaker	IR-908 or IR-909	I
room or a squeal will occur	IS-920WH	White	5 1/4" 2-Way Round Recessed Ceiling Speaker	included	I
during intercom operation)	IS-921WH	White	6 1/2" 2-Way Round Recessed Ceiling Speaker	included	I
Door Speakers	ISA-63	Dark Brown/Brass	Surface Mount; Molded; No Pushbutton	ı	included
	ISB-64	Dark Brown/Brass	Surface Mount; Molded; Unlighted Pushbutton	ı	included
	LS-67	White (WH), Woodgrain/Gold (D)	Recessed; Molded; Lighted Pushbutton	IR-6	IA-70
	69-SI	White (WH), Antq Brass (AB), Polshd Brass (PB)	Recessed; Cast Metal; Lighted Pushbutton	IR-6	IA-70
	IS-70	White (WH), Antq Brass (AB), Polshd Brass (PB)	Recessed; Cast Metal; No Pushbutton	IR-6	IA-70
Volume Controls	IC-901WH	White (WH)	Inside Volume Control (one spkr per control)	Std Wall Box	I
	IC-902	Stainless Steel	Outside Volume Control (one spkr per control)	Std Wall Box	1
Audio Adapter Plate	IA-30WH	White	Wall Plate for use with External Music Source	IR-30K	1
Door Release	PB-1CL	Clear	Pushbutton (snaps into knockout in Master)	-	
	DR-1	Brass (BA) or Silver (SA)	Electric Door Release for Wood Jamb	ı	I
	DR-2-SA	Silver	Electric Door Release for Metal Jamb	-	
Cable	IW-2-100	_	100 feet 2 Cond. 22 ga Door Speaker/Chime Cable	-	I
	IW-2-100-UL	I	100 feet 2 Cond. 22 ga UL Approved Door Speaker/Chime Cable	ı	I
	IW-2-500	I	500 feet 2 Cond. 22 ga Door Speaker/Chime Cable	ı	I
	IW-2-500-UL	_	500 feet 2 Cond. 22 ga UL Approved Door Speaker/Chime Cable	1	I
	IW-6-200	_	200 feet 6 Cond. 22 ga Intercom Cable	1	
	IW-6-200-UL	1	200 feet 6 Cond. 22 ga UL Approved Intercom Cable	ı	I
	IW-6-1000	_	1000 feet 6 Cond. 22 ga Intercom Cable	1	1
	IW-6-1000-UL	I	1000 feet 6 Cond. 22 ga UL Approved Intercom Cable	I	I
	S-143	1	2 Conductor Chime Button Cable (18 ga)	ı	I
	S-143-UL	ı	2 Conductor UL Approved Chime Button Cable (16 ga)	1	Ī
	<u>.</u>				

\*\*IR-55 used for stucco or brick exterior

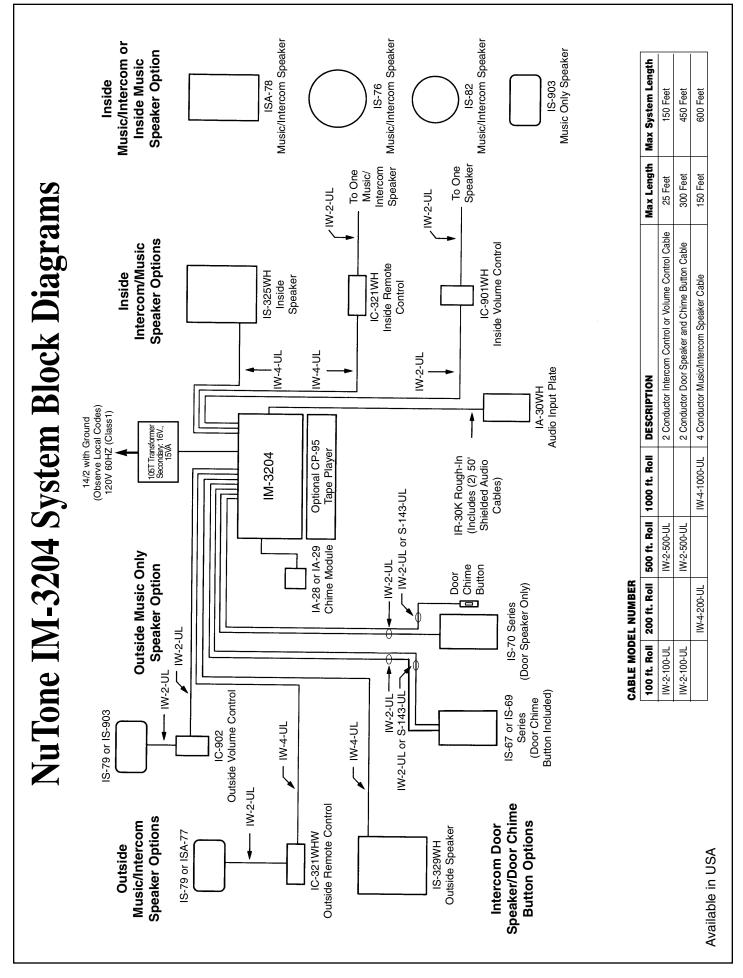


# **IM-3303 Series Components**

	Model No.	Options	Description	Recessed Housing
Music Intercom Master	IM-3303	White (WH), Biscuit (L)	Deluxe Monaural Music Intercom Masterr	IR-104
Cassette Player	CP-95	White	Cassette Player with Auto Reverse	IR-90
Chime Modules	IA-28	1	Chime Module (8, 2 or 1 note - 3 doors)	
	IA-29	1	Chime Module (Multitune, 2 or 1 note - 3 doors)	I

	ON Japon	Ontions	Description	Becesed Housing	Surface Mount Housing Model
				01 01	
Remote Intercom Speakers	15-335	~ `	5. Inside Remote With Controls	IR-50	IA-60
	S-338	White (WH), Biscuit (L), Black (BL), Sable Brown (D)	8" Inside Remote with Controls	IR-80	I
	IS-339WH	White	5" Outside Remote with Controls		included
	IS-319	White (WH), Antg Brass (AB), Polshd Brass (PB)	5" Outside Remote with Controls	IR-50 or IR-55**	I
Intercom Speaker Frames	09-VI	White (WH), Biscuit (L), Walnut (D)	5" Wall/Desk Mounting Frame	I	I
	IA-6	1	Wall Receptacle for IA-60	ı	I
	IA-6C	1	Cable for IA-6	I	I
Remote Intercom Controls	IC-331WH	White	Inside Remote Intercom Control (one spkr per control)	IR-91	ı
	IC-331WHW	White	Outside Remote Intercom Control (one spkr per control)		included
Music/Intercom Speakers	92-SI	White	8" Inside Round Recessed Speaker	IR-70	I
	ISA-77	Black Grille with Brown frame/mounting bracket	8" Outside Surface Mount Speaker	I	included
	ISA-78	White (WH), Biscuit (L)	8" Inside Rectangular Recessed Speaker	IR-80	I
	6Z-SI	Aluminum	8" Outside Square Recessed Speaker	IR-9	I
	IS-82	White	5" Inside Round Recessed Speaker	included	I
Music Speakers		White (WH), Black (BL)	3 1/2" 2-Way Inside/Outside Speaker	-	included
Music and intercom speakers	IS-905WH	White	5 1/4" 2-Way Inside Recessed Speaker	IR-905 or IR-906	I
must not be installed in the same	HW806-SI	White	8" 2-Way Inside Recessed Speaker	IR-908 or IR-909	ſ
room or a squeal will occur	IS-920WH	White	5 1/4" 2-Way Round Recessed Ceiling Speaker	pepnloui	I
during intercom operation)	IS-921WH	White	6 1/2" 2-Way Round Recessed Ceiling Speaker	pepnloui	I
Door Speakers	ISA-63	Dark Brown/Brass	Surface Mount; Molded; No Pushbutton	1	included
	ISB-64	Dark Brown/Brass	Surface Mount; Molded; Unlighted Pushbutton	ı	included
		White (WH), Woodgrain/Gold (D)	Recessed; Molded; Lighted Pushbutton	IR-6	IA-70
	69-SI	White (WH), Antq Brass (AB), Polshd Brass (PB)	Recessed; Cast Metal; Lighted Pushbutton	IR-6	IA-70
	IS-70	White (WH), Antq Brass (AB), Polshd Brass (PB)	Recessed; Cast Metal; No Pushbutton	IR-6	IA-70
Volume Controls	IC-901WH	White (WH)	Inside Volume Control (one spkr per control)	Std Wall Box	I
	IC-902	Stainless Steel	Outside Volume Control (one spkr per control)	Std Wall Box	-
Audio Adapter Plate	IA-30WH	White	Wall Plate for use with External Music Source	IR-30K	I
Door Release	PB-1CL	Clear	Pushbutton (snaps into knockout in Master)	ı	I
	DR-1	Brass (BA) or Silver (SA)	Electric Door Release for Wood Jamb	1	1
	DR-2-SA	Silver	Electric Door Release for Metal Jamb	I	1
Cable	IW-2-100	-	100 feet 2 Cond. 22 ga Door Speaker/Chime Cable	ı	I
	IW-2-100-UL	1	100 feet 2 Cond. 22 ga UL Approved Door Speake/Chime Cable	I	I
	IW-2-500		500 feet 2 Cond. 22 ga Door Speaker/Chime Cable	ı	I
	IW-2-500-UL	ı	500 feet 2 Cond. 22 ga UL Approved Door Speaker/Chime Cable	1	I
	IWA-3-200	-	200 feet 6 Cond, 22 ga Intercom Cable	_	1
	IWA-3-200-UL	ı	200 feet 6 Cond. 22 ga UL Approved Intercom Cable	I	I
	IWA-3-1000	I	1000 feet 6 Cond. 22 ga Intercom Cable	I	I
	IWA-3-1000-UL	-	1000 feet 6 Cond, 22 ga UL Approved Intercom Cable	1	I
	S-143	_	2 Conductor Chime Button Cable (18 ga)	I	I
	S-143-UL		2 Conductor UL Approved Chime Button Cable (16 ga)	1	1

\*\* IR-55 used for stucco or brick exterior

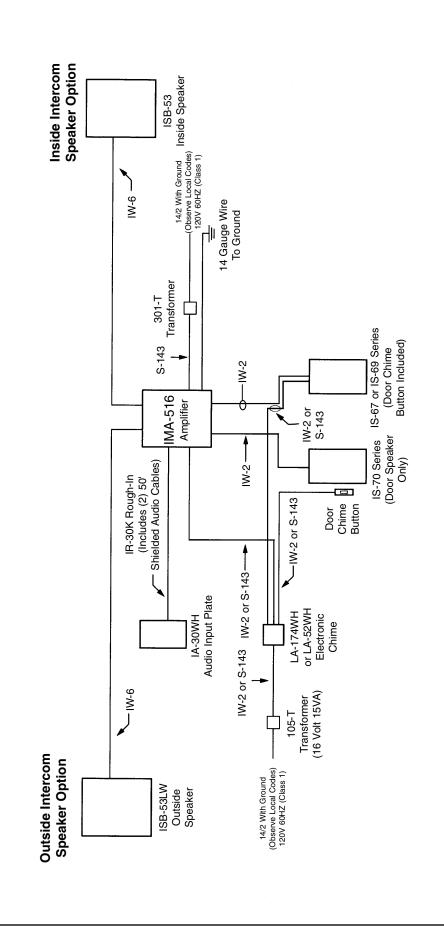


# **IM-3204 Series Components**

	Model No.	Options	Description	Recessed Housing
Music Intercom Master	IM-3204WH	White	Basic Monaural Music Intercom Master	IR-103
Cassette Player	CP-95	White	Cassette Player with Auto Reverse	IR-90
Chime Modules	IA-28	I	Chime Module (8, 2 or 1 note - 3 doors)	I
	A-29	I	Chime Module (Multitune, 2 or 1 note - 3 doors)	1

	Model No.	Options	Description	Recessed Housing	Surface Mount Housing Model
Remote Intercom Speakers	IS-325WH	White	5" Inside Remote with Controls	IR-50	IA-60WH
	IS-329WH	White	5" Outside Remote with Controls	1	included
Intercom Speaker Frames	IA-60WH	White	5" Wall/Desk Mounting Frame	I	I
	IA-6	I	Wall Receptacle for IA-60	ı	1
	IA-6C	I	Cable for IA-6	I	I
Remote Intercom Controls	IC-321WH	White	Inside Remote Intercom Control (one spkr per control)	IR-91	I
	IC-321WHW	White	Outside Remote Intercom Control (one spkr per control)	I	included
Music/Intercom Speakers	92-SI	White	8" Inside Round Recessed Speaker	IR-70	I
	ISA-77	Black Grille with Brown frame/mounting bracket	8" Outside Surface Mount Speaker	ı	included
	ISA-78	White (WH), Biscuit (L)	8" Inside Rectangular Recessed Speaker	IR-80	
	6Z-SI	Aluminum	8" Outside Square Recessed Speaker	IR-9	ı
	IS-82	White	5" Inside Round Recessed Speaker	included	
Music Speakers	IS-100	White	6" Round Ceiling/Wall Speaker	included	
Music and intercom speakers	S-903	White (WH), Black (BL)	3 1/2" 2-Way Inside/Outside Speaker	ı	included
must not be installed in the same	HW506-SI	White	5 1/4" 2-Way Inside Recessed Speaker	IR-905 or IR-906	1
room or a squeal will occur	IS-908WH	White	8" 2-Way Inside Recessed Speaker	IR-908 or IR-909	
during intercom operation)	IS-920WH	White	5 1/4" 2-Way Round Recessed Ceiling Speaker	included	]
	IS-921WH	White	6 1/2" 2-Way Round Recessed Ceiling Speaker	included	
Door Speakers	ISA-63	Dark Brown/Brass	Surface Mount; Molded; No Pushbutton		included
	ISB-64	Dark Brown/Brass	Surface Mount; Molded; Unlighted Pushbutton	ı	included
	LS-67	White (WH), Woodgrain/Gold (D)	Recessed; Molded; Lighted Pushbutton	IR-6	IA-70
	69-SI	White (WH), Antq Brass (AB), Polshd Brass (PB)	Recessed; Cast Metal; Lighted Pushbutton	IR-6	IA-70
	IS-70	White (WH), Antq Brass (AB), Polshd Brass (PB)	Recessed; Cast Metal; No Pushbutton	IR-6	IA-70
Volume Controls	IC-901WH	White (WH)	Inside Volume Control (one spkr per control)	Std Wall Box	ı
	IC-902	Stainless Steel	Outside Volume Control (one spkr per conrol)	Std Wall Box	ı
Audio Adapter Plate	IA-30WH	White	Wall Plate for use with External Music Source	IR-30K	ı
Cable	IW-2-100-UL	ı	100 feet 2 Cond. 22 ga UL Approved Door Speaker/Chime Cable	I	I
	IW-2-500-UL	ı	500 feet 2 Cond. 22 ga UL Approved Door Speaker/Chime Cable	I	I
	IW-4-200-UL	ı	200 feet 4 Cond, 22 ga UL Approved Intercom Cable	I	I
	IW-4-1000-UL	-	1000 feet 4 Cond. 22 ga UL Approved Intercom Cable	1	1
	S-143-UL		2 Conductor UL Approved Chime Button Cable	ı	ı

# NuTone IMA-516 System Block Diagrams



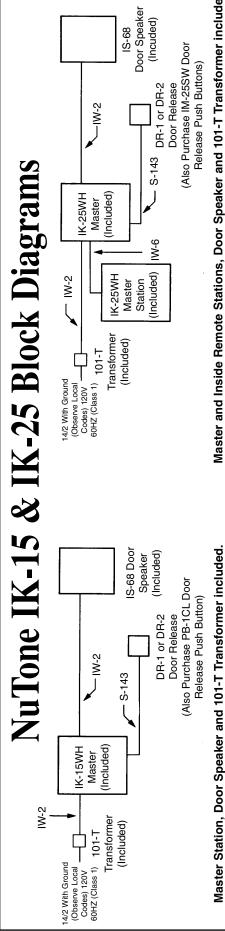
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100 ft. Roll	200 ft. Roll	500 ft. Roll	1000 ft. Roll	100 ft. Roll 200 ft. Roll 500 ft. Roll 1000 ft. Roll DESCRIPTION	Max Length	Max Length Max System Length
IW-2-100		IW-2-500		2 Conductor Door Speaker Cable	300 Feet	400 Feet
IW-2-100-UL		IW-2-500-UL		UL Apprved 2 Conductor Door Speaker Cable	300 Feet	400 Feet
		S-143		2 Conductor Transformer to Amplifier Cable	150 Feet	150 Feet
		S-143-UL		UL Approved 2 Conductor Transformer to Amplifier Cable	150 Feet	150 Feet
	IW-6-200		IW-6-1000	IW-6-1000 6 Conductor Intercom Speaker Cable	150 Feet	4000 Feet
	IW-6-200-UL		IW-6-1000-UL	IW-6-1000-UL	150 Feet	4000 Feet

Available in USA and Canada

# **IMA-516 Series Components**

				Surface Month	Housing Model	IA-15	included	1	included	1	l	1	1	included	I	I	ı	I	included	included	IA-70	IA-70	IA-70	ı	I	ı	I	I	ı	I	ı	I	I	-		
Recessed Housing	1	IR-90	I		Recessed Housing	IR-3	I	IR-70		IR-80	IR-9	included	included	_	IR-905 or IR-906	IR-908 or IR-909	included	included	1	ı	IR-6	IR-6	IR-6	Std Wall Box	Std Wall Box	IR-30K	I	I	ı	1	ı	ı	1	1		I
u	Intercom Master, Surface Mount	Cassette Player with Auto Reverse	16 Volt 30VA Transformer		Description	3 1/2" Inside Remote with Controls	3 1/2" Outside Remote with Controls	8" Inside Round Recessed Speaker	8" Outside Surface Mount Speaker	8" Inside Rectangular Recessed Speaker	8" Outside Square Recessed Speaker	5" Inside Round Recessed Speaker	6" White Recessed Ceiling/Wall Speaker	3 1/2" 2-Way Inside/Outside Speaker	5 1/4" 2-Way Inside Recessed Speaker	8" 2-Way Inside Recessed Speaker	5 1/4" 2-Way Round Recessed Ceiling Speaker	6 1/2" 2-Way Round Recessed Ceiling Speaker	Surface Mount; Molded; No Pushbutton	Surface Mount; Molded; Unlighted Pushbutton	Recessed; Molded; Lighted Pushbutton	Recessed; Cast Metal; Lighted Pushbutton	Recessed; Cast Metal; No Pushbutton	Inside Volume Control (one spkr per control)	Outside Volume Control (one spkr per control)	Wall Plate for use with External Music Source	100 feet 2 Cond. 22 ga Door Speaker Cable	100 feet 2 Cond, 22 ga UL Approved Door Speaker Cable	500 feet 2 Cond. 22 ga Door Speaker Cable	500 feet 2 Cond. 22 ga UL Approved Door Speaker Cable	200 feet 6 Cond, 22 ga Intercom Cable	200 feet 6 Cond. 22 ga UL Approved Intercom Cable	1000 feet 6 Cond. 22 ga Intercom Cable	1000 feet 6 Cond. 22 ga UL Approved Intercom Cable	2 Conductor Chime Button Cable (18 ga)	2 Conductor UL Approved Chime Button Cable (16 ga)
	Eggshell White with Aluminum Intercom M	White Cassette P			Options	White (WH), Eggshell (L)	Eggshell White	White	Black Grille with Brown frame/mounting bracket	White (WH), Biscuit (L)	Aluminum	White	White	White (WH), Black (BL)	White	White	White	White	Dark Brown/Brass	Dark Brown/Brass	White (WH), Woodgrain/Gold (D)	White (WH), Antq Brass (AB), Polshd Brass (PB)	White (WH), Antq Brass (AB), Polshd Brass (PB)	White (WH)	Stainless Steel	White	I	I		1	I	-	_	_		1
Model No.	IMA-516	CP-95	301T		Model No.	ISB-53	ISB-53LW	IS-76	ISA-77	ISA-78	S-29	IS-82	IS-100	IS-903	IS-905WH	IS-908WH	IS-920WH	IS-921WH	ISA-63	ISB-64		69-SI	IS-70	IC-901WH	IC-902	IA-30WH	IW-2-100	IW-2-100-UL	IW-2-500	IW-2-500-UL	IW-6-200	IW-6-200-UL	IW-6-1000	IW-6-1000-UL	S-143	S-143-UL
	Intercom Master	Cassette Player	Transformer			Remote Intercom Speakers		Music Speakers											Door Speakers					Volume Controls		Audio Adapter Plate	Cable									



Master and Inside Remote Stations, Door Speaker and 101-T Transformer included. Purchase cable and optional door release separately.

### IK-15

Purchase cable and optional door release separately.

CABLE MODEL NUMBER	NUMBER		CI-VII	o O	
100 ft. Roll	200 ft. Roll	500 ft. Roll	500 ft. Roll 1000 ft. Roll	DESCRIPTION	Max Length
IW-2-100		IW-2-500		Transformer to IK-15 Cable	100 Feet
IW-2-100-UL		IW-2-500-UL		UL approved Transformer to IK-15 Cable	100 Feet
IW-2-100		IW-2-500		IK-15 to Door Speaker Cable	300 Feet
IW-2-100-UL		IW-2-500-UL		UL Approved IK-15 to Door Speaker Cable	300 Feet
IW-2-100		IW-2-500		IK-15 to Door Release Cable	100 Feet
IW-2-100-UL		IW-2-500-UL		UL Approved IK-15 to Door Release Cable	100 Feet
		S-143		IK-15 to Door Release Cable	200 Feet
		S-143-UL		UL Approved IK-15 to Door Release Cable	200 Feet

### IK-25

CABLE MODEL NUMBER	NUMBER		C7-VII	ũ	
100 ft. Roll	200 ft. Roll	500 ft. Roll	1000 ft. Roll	DESCRIPTION	Max Length
IW-2-100		IW-2-500		Transformer to IK-25 Cable	100 Feet
IW-2-100-UL		IW-2-500-UL		UL approved Transformer to IK-25 Cable	100 Feet
IW-2-100		IW-2-500		IK-25 to Door Speaker Cable	300 Feet
IW-2-100-UL		IW-2-500-UL		UL Approved IK-25 to Door Speaker Cable	300 Feet
	IW-6-200		IW-6-1000	IK-25 Master to IK-25 Remote Cable	100 Feet*
	IW-6-200-UL		IW-6-1000-UL	UL Approved IK-25 Master to IK-25 Remote Cable	100 Feet*
IW-2-100		IW-2-500		IK-25 to Door Release Cable	50 Feet
IW-2-100-UL		IW-2-500-UL		UL Approved IK-25 to Door Release Cable	50 Feet
		S-143		IK-25 to Door Release Cable	100 Feet
		S-143-UL		UL Approved IK-25 to Door Release Cable	100 Feet

50 feet maximum if door release is used.

## **IK-15 Components**

ecessed Housing Surface Mount	— included
Description Re	Two-Station Door Answering Intercom, Surface Mount
Options	Eggshell White Inside Unit, Brown Door Speaker
Model No.	IK-15WH
	DoorCom Intercom

	Model No.	Options	Description	Recessed Housing Surface Mount	Surface Mount
Additional Door Speaker	89-SI	Brown	Surface Mount; Molded; Unlighted Pushbutton	1	included
Door Release	PB-1CL	Clear	Pushbutton (snaps into IK-15 inside station)	1	I
	DR-1	Brass (BA) or Silver (SA)	Electric Door Release for Wood Jamb	ı	I
	DR-2-SA	Silver	Electric Door Release for Metal Jamb	I	1
Cable	IW-2-100	ı	100 feet 2 Cond. 22 ga Door Speaker Cable	I	I
	IW-2-100-UL	1	100 feet 2 Cond. 22 ga UL Approved Door Speaker Cable	I	1
	IW-2-500	I	500 feet 2 Cond. 22 ga Door Speaker Cable	ı	I
	IW-2-500-UL	I	500 feet 2 Cond. 22 ga UL Approved Door Speaker Cable	I	I
	S-143	1	2 Conductor Door Release Cable (18 ga)	I	I
	S-143-UL	ı	2 Conductor UL Approved Door Release Cable (16 ga)		ı

## **IK-25 Components**

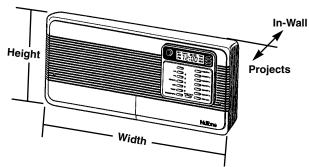
	Model No.	Options	Description	Recessed Housing	Surface Mount
orCom Intercom	IK-25WH	Eggshell White Inside Unit, Brown Door Speaker	Three Station Door Answering Intercom, Surface Mount	I	included

	Model No.	Options	Description	Recessed Housing	Surface Mount
Additional Door Speaker	IS-68	Brown	Surface Mount; Molded; Unlighted Pushbutton	_	included
Door Relaease	IM-25-SW	Clear	Pushbutton (snaps into IK-25 inside station)	I	ı
	DR-1	Brass (BA) or Silver (SA)	Electric Door Release for Wood Jamb	I	ı
	DR-2-SA	Silver	Electric Door Release for Metal Jamb	I	1
Cable	IW-2-100	I	100 feet 2 Cond. 22 ga Door Speaker Cable	I	included
	IW-2-100-UL	I	100 feet 2 Cond. 22 ga UL Approved Door Speaker Cable	I	I
	IW-2-500	I	500 feet 2 Cond. 22 ga Door Speaker Cable	I	ı
	IW-2-500-UL	I	500 feet 2 Cond. 22 ga UL Approved Door Speaker Cable	I	ı
	IW-6-200	I	200 feet 6 Cond. 22 ga Intercom Cable	I	I
	IW-6-200-UL	I	200 feet 6 Cond. 22 ga UL Approved Intercom Cable		1
	IW-6-1000	I	1000 feet 6 Cond. 22 ga Intercom Cable	I	ı
	IW-6-1000-UL	I	1000 feet 6 Cond. 22 ga UL Approved Intercom Cable	I	I
	S-143	I	2 Conductor Door Release Cable (18 ga)	I	ı
	S-143-UL	I	2 Conductor UL Approved Door Release Cable (16 ga)		I

### **Dimensions for Rough-Ins and Trim**

Model	Width	Height	In-Wall Dept	Projects From Wall
MASTERS				
IK-15, IK-25 Room Speaker	5%"	7¾"	_	1%"
IM-3204	15½"	81/4"	3%"	11/4"
IM-3303	15½"	81/4"	3%"	11/4"
IM-4406	17¾"	10%"	3½"	1%"
IM-5000	8"	12½"	_	3½"
IMA-516	4%"	7%"	_	2%"
CASSETTE PLAYER CP-95	15¼"	3¼"	3%"	1%"
CF-95	15%	3/4	3%	178
ROUGH-IN HOUSINGS	07/1	<b>5</b> 7/II		
IR-3	3%"	5%"	_	_
IR-6	3¾"	5"	_	_
IR-9	10%"	111/4"	_	_
IR-50	5%"	7¼"	_	_
IR-55	5%"	7¼"	_	_
IR-70	17%"	12%"	_	_
IR-80	8%"	10¼"	_	_
IR-90	14½"	2¼"	_	_
IR-91	6%"	3¼"		_
IR-103	14½"	7"	3%"	_
IR-104	14½"	7"	3%"	_
IR-105	14½"	9"	3%"	_
IR-905	6%"	9%"	_	_
IR-906	5%"	10%"	_	_
IR-908	91/8"	13¼"	_	_
IR-909	81/4"	13%"		_
MUSIC/INTERCOM SPEAKERS				
IS-76	12¾" dia.	_	2¾"	1/4"
IS-79	12%"	12%"	2%"	1/4"
IS-82	8" dia.	_	21/4"	1/4"
IS-100	6%" dia.		1¾"	3/4"
IS-319	61/4"	8¼"	1%"	1/2"
IS-325WH	<b>6</b> 5/16"	8¼"	<b>1</b> %6"	7 <b>%"</b>
IS-329WH	611/16"	8%"	31/4"	215/16"
IS-335	6%"	8¼"	1%"	7 <b>%"</b>
IS-338	10"	11¼"	2¾"	7⁄8 <b>"</b>
IS-339WH	6¾"	8%"	_	31/4"
IS-419	6¼"	8¼"	1%"	1/2"
IS-445	6%"	8¼"	1%"	7/8"
IS-448	10"	11¼"	2¾"	7%"
IS-449WH	6%"	8%"	_	31/8"
IS-515	61/4"	8¼"	1%"	1"
IS518	101/4"	11½"	21/8"	7%"
IS-519	61/4"	8¼"	11/4"	1"
IS-903	7¼"	4¾"	_	61/2"
IS-905WH	7½"	11	2%"	3 <b>%"</b>
IS-908WH	10"	14"	3¼"	3 <b>%"</b>
IS-920WH	8" dia.	_	25/6"	3/4"
IS-921WH	8%" dia.	_	2%"	3/4"
ISA-78	10%"	11%"	2¾"	3/8"
ISB-53	4%"	6¾"	31/8"	1/2"
100-00	7/8	0/4	J/8	/2

Model	Width	Height	In-Wall Dept	Projects From Wall
MUSIC VOLUME CONTROL				
IC-901	2¾"	4¾"	1/2"	7/8"
IC-902	2¾"	4½"	3/4"	<b>%"</b>
REMOTE CONTROLS				
IC-321WH	7"	4"	1%"	1¼"
IC-321WHW	7"	4"	_	21/4"
IC-331WH	7"	4"	1%"	<b>%"</b>
IC-331WHW	7"	4"	_	21/4"
IC-441WH	7"	4"	1%"	<b>%"</b>
IC-441WHW	7"	4"	_	2%"
IC-502	7"	4"	1"	1"
IC-502LW	7"	4"	1"	1"
DOOR SPEAKER				
IK-15, IK-25 Door Speaker	41/%"	5%"	_	1%"
IS-67	47%"	6½"	2"	5%"
IS-69	47%"	6½"	1¾"	5%"
IS-70	47%"	6½"	1¾"	5%"
ISA-63	3¾"	4%"	_	1%"
ISB-64	3¾"	4%"	_	1%"



All illustrations and specifications in this Selection and Installation Guide are based on the latest product information available at the time of publication. NuTone reserves the right to make changes at any time without notice, in prices, colors, materials, equipment, sizes, specification and models, and to discontinue models or equipment.



### **Broan-NuTone**

Product specifications subject to change without notice.

4820 Red Bank Road • Cincinnati, OH 45227

Technical Support 1-888-336-6151